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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,472	03/04/2002	Lothar Quick	60680-1562	1398

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EXAMINER

PATEL, VISHAL A

ART UNIT PAPER NUMBER

3676

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,472

Applicant(s)

QUICK, LOTHAR

Examiner

Vishal Patel

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,21,27,28,30,31 and 33-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,21,27,28,30,31 and 33-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 21, 30, 33 and 34-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa (6,062,572) in view of Zerfass (DE 3611285 A1).

Hasegawa discloses a gasket (gasket of figures 1-2) having at least one metallic layer (1) including at least one gasket opening (opening 2a) and at least one bead (bead 3a). A deformation limiter (4) including at least one filler (filler is an inorganic substance, column 4, lines 14-18) and one bonding agent (resin, column 4, lines 10-12), wherein the filler and the bonding agent form a coating (coating of the deformation limiter 4). The coating is arranged in a bead (coating is arranged in a bead).

A mass proportion of the filler is greater than a proportion of the bonding agent (inorganic filler is the main component of the deformation limiter 4, column 4, line 5).

A mass of filler to the bonding agent is higher (since the main component of the deformation limiter is the filler).

The filler has particles having an average grain size. The particles of the filler consist of metal, an alloy, a resin, a ceramic and mixtures thereof.

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The filler has a surface area in relation to the volume. The bonding agent is a thermosetting material (resin or epoxy are harden by heating the resin or epoxy). The coating is arranged in a bead (the deformation limiter 4 is a bead configuration).

The coating is applied in the form of a line of uneven width or height or shape (the coating of the deformation limiter is given thickness and a given pattern by means of conventional printing or metal spray or dispenser, column 6, lines 50-54).

In figure 4, the gasket is the same as the gasket of figure 1 but additionally has the coating applied to two facing side of a metallic layer (top and bottom of metal layer).

In figure 8, the gasket has two metallic layer (1a and 1b), a deformation limiter having coating (4) is applied to the metallic layer (1a) near the bead (3d) of a second metallic layer (1b). The coating having the same properties as described in figure 1 and above (mass proportion of filler and bonding agent).

A method of manufacturing a gasket comprising the step of applying a mixture containing at least one filler and one bonding agent to a metallic layer (column 4, lines 6-9). Hardening the applied coating (this is the case since resin or epoxy are harden). The hardening includes input of energy (heat is added to harden resin or epoxy). The applying step including printing the mixture on the metallic layer (column 4, line 9).

Hasegawa discloses the invention substantially as claimed above but fails to disclose that a mass ratio of filler to bonding agent is at least 2:1 and 9:1, at least 80% of the particles have an average grain size in the range between 5 to 100 micrometer, each particle of filler has a small surface area in relation a volume of the particle (this would be the case due to the size or shape of the particles), the particles have a smooth, rounded surface or are spherical and an additional

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thermoplastic addition. Zerfass discloses a screen printable material having a bonding agent, a filler having particles of grain size in the range of between 5 to 100 micrometer, an additional thermoplastic addition (see abstract of Zerfass) and a mass ratio of the filler to bonding agent is at least 2:1 or 9:1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the coating, the mass ratio of filler to bonding agent and the particle size of Hasegawa to have an additional thermoplastic addition, to be 2:1 or 9:1 and to be 5 to 100 micrometer, respectively as taught by Zerfass, to provide deformation limiter with high-pressure and heat resistance (abstract of Zerfass).

3. Claims 27-28 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Zerfass as applied to claim 1 above, and further in view of Smith (US. 5,702,111).

Hasegawa and Zerfass disclose the invention substantially as claimed above but fail to disclose that the particles to be of spherical form or have a small surface area in relation to the volume of the particle and the particles have a smoothed, rounded surface. Smith discloses a filler in a member to be spherical in shape (12) and the filler can be made of aluminum (column 3, lines 57-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the particles of Hasegawa and Zerfass to be of spherical shape as taught by Smith, since choosing a shape of a filler would be obvious to one having ordinary skill in the art and would provide better thermal conductivity and heat transfer (column 3, lines 57-60).

4. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Zerfass as applied to claim 30 above, and further in view of Mitchell et al (US. 6,211,458).

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Hasegawa and Zerfass disclose the invention substantially as claimed above and teach that the particles can be mixtures of metals such as metal and alloy but fail to disclose that the particle include a copper and tin alloy. Mitchell discloses a gasket or seal that has filler that are copper, nickel, aluminum, tin or tin alloy (column 6, lines 18-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the particles of Hasegawa and Zerfass to be of copper and tin alloy as taught by Mitchell, since having one metal and alloy be replaced by another metal and alloy is considered to be art equivalent.

Response to Arguments

5. Applicant's arguments with respect to claims 1, 21, 27-28, 30-31 and 33-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann, can be reached on (703) 306-4115.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to: 703-872-9326, for formal communications for entry before Final action: or,
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

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VP
July 9, 2004

Judy J. Swann
Supervisory Patent Examiner
Tech. Center 3600

A handwritten signature in black ink, appearing to read "R. Sandy". The signature is fluid and cursive, with a long horizontal stroke at the end.

ROBERT J. SANDY
PRIMARY EXAMINER